

reply to Notice of ~~Non- Compliant Amendment~~ of 11/8/04 and ~~Office action of Election/Restriction~~ of 8/

Appn. Number: 10/050,193

Appn. Filed 01/16/2002

Reply to Non-Compliant Amendment of 11/8/04 and  
Office action of 8/8/05

### **Amendments to the Specification:**

Please replace the following specification from page [1 to 13] with the following amended specification page:

#### **Background-field of invention**

[1-13] This invention (relate) relates to ~~crossover networks~~ (,) variable or invariable audio enhancing circuits of communication such as an audio circuit that is provided for enhancing audio signals that derive from an acoustic source more specifically for enhancing acoustic quality of communication systems. The invention further reflects on means for conveying audio signals such as multiplexing techniques and coupling methods of communication. The audio enhancing circuit, as described, refers to audio enhancing circuits such as audio processing circuits and other audio enhancing circuits for providing acoustic enhancement communication procedures to a communication system. audio ports, electronic coupling mediums and electronic (acoustic hearing aids,) for enhancing a communicating audio- (section.)

#### **Background--Description of Prior Art**

Wireless Radio communication are is an exiting new concept, but this phenomenon can also be bring forth harmful communicating communicational conditions devises. In referents to the remote mobility that these wireless communication devises provides, Telecommunication apparatus it may be reasonable to state under mobile conditions, that wireless telephones are used any where from a personal habitant commercial and residential areas to automobiles.

reply to Notice of **Non- Compliant Amendment** of 11/8/04 and **Office action of Election/Restriction** of 8/

Today Due to the hazardous conditions that wireless telephones influents when employed under mobile conditions that an automobile provide, they there are many laws passed through-out throughout the eountry U.S banding banning these wireless telephones telecommunication-devises from motor vehicles such as US U.S public law 100-394 August 16, 1988 which requires requiring hand-held handheld communication devices such as wireless telephones to be coupled with an external hearing aid because of (it's) its potential hazard to ~~motorist~~ motorists and pedestrians.

## 4

Despite the danger(.), ~~The wireless telephones or handheld~~ telecommunication apparatus have ~~evolve~~ evolved to become a main source of communication. However(;) , in order to bypass some of the occupying distractions and ~~hazard~~ hazardous conditions of communicating ~~while~~ during the critical durations that requires vital concentration while operating a motor vehicle or mechanical means which apparently require sufficient concentration for safe procedure, performing a physical task (.) magnetic coupling hearing aid aids are adopted to a ~~communicating~~ communicative section in a wireless telephone to aid in to facilitate the telephone system by enabling a fluent non-divertive communication procedure in the present of mobile operation. ~~communicating in an un-occupying manner~~ (.)

A prior invention ~~relating~~ relative to a magnetic hearing aid which accordingly couples with a communication system ~~for hearing~~ to aid in the conveyance of audio signals during communication procedures is provided in US U.S Patent number 5740257 by Marcus; Larry Allen April 14, 1918 which describes a magnetic coupling hearing aid with active noise control for eliminating noise by generating a representation of the original input signal. (,) Thereby, the generation is employed to drive an individual external earphone (,) field coil. The external field coil is positioned between the handset receiver and the handset audio output ports ~~position~~ for easy access or convenient operation to a user. A receiving apparatus is disposed into the ear cavity for signal response and to drive a magnetic field(,) comprising an interior cavity and (a) an audio output port for inputting signals to (a) an ear cavity(,) having a receiver in said interior for receiving (a) an audio signal and transducer for communicating with said ear cavity.

These ~~The~~ plugged-in magnetic hearing aids ~~aid devices~~ ~~device~~ that is provided in ~~the prior application~~(,) are ~~some-time~~ ~~is tailored~~ ~~manufactured with for~~ ~~facilitating wireless handheld telephones telecommunication devices~~ (,) and they are ~~compatible with most it~~ includes accessories to accommodate the wireless telephone ~~devices telecommunication devices~~ . ~~Though the employment of the magnetic hearing aid in a communication device may be subjective to pedestrians which may relate to the prior application, objectively, the method that the present application provides is critical to the facilitation of operating a motor vehicle during the procedure of communication. Conclusively, under the terms and conditions that the prior application provides, apparently, this prior art is incapable of possessing these crucial properties because of the distinctive nature it possesses which appears to be relegated to the mechanical or automobile field in comparison to the mobile coupling capabilities of the present application. In account to the objections of the prior articles of this nature, Magnetic field magnetic hearing aid aids or headsets are used on in a wireless telephonic communication device to bypass the occupancy of an the wireless hand held telephone devices telecommunication device . However, But~~ (,) a user is still occupied with ~~an annoying a deflective headset headphone device~~(,) plus a handheld ~~wireless telecommunication telephone device while communicating~~(,) when using ~~when a magnetic coupling hearing aid with is connected to a wireless communicating telephone device for executing mobile operations during the communication procedure.~~

Unlike ~~In~~ consideration of the present article "Audio-Cell" which facilitates remote communication, ~~wherein herein~~, a coupling method ~~execute executes~~ a ~~reserve touch-free hands-off~~ remote way of communicating audio signals to a user in motor vehicles or machinery. According to the nature of this method which is provided in the present application; substantially, the technical arrangements is applied to enable the user's focus to be centered on the operation of the machine or vehicle instead of the divertive consistence that is objected in the presents of mobile communication which may direct focus only on the conversation while the conductivity of communication is in motion with the operation of the machine or motor vehicle.

Magnetic coupling hearing aid aids bring (on) increase of body temperature while your body (is active) they also cause friction divert attention and can may cause hazardous conditions; affect a users hearing therefore, this becomes a great negative drawback for the magnetic coupling hearing aid devices.

Technically, the present application is fundamentally designated for the emphasis of quality acoustic communication. The acoustic reproductive elements that are employed for the implementation of perceivable acoustic messages are vital to the object of acoustic communication. However, by any means, most Most prior art in this the narrow field of acoustical communication (do) does not emphasize the fundamental elements of acoustic section quality of (a) of telephones, duplex or designated simplex communication systems apparatus enough. Relative articles that does emphasize the acoustic section of a telephonic, duplex or designated simplex communication system Audio related article are not that concern concerned with sound efficiency audio quality, efficient performance or general acoustic improvements for at least a reasonable perception during the procedures of communication. but there However, their attention is directed in other extraneous areas such as recording networking, generating acoustic signals to interconnect with warning devices, such as, telephone or computer ring tone devices, domestic acoustic interactions which may include selective acoustic interaction such as access dialing and voice activated access.

An example of a relative article of this nature is patent number 4,214,131 in which reflects on the ring tone devices of a communication system. From that aspect, the application recites an audio signal device that is substituted or compensate by integration for the usual electromechanical ringer device of a telephone system. The audio signals device further includes solid-state circuitry for eliminating noise pulses and an electronic oscillator circuit that will operate effectively on a minimum current supply and variable volume control.

In consideration of the extraneous acoustic nature of the prior art application number 4,214,131, it is apparently distinguished from the present application; from that aspect, the provided audio signals device of the prior art application number 4,214,131 is basically interpret as a piezoelectric acoustic generator device that is employed as tone ringer device. Accordingly, this prior art is distinguished from the present invention in which audio enhancing or processing circuits are employed to provide quality audio signals which consist of conversation or audio communicational messages that are communicated as words or other form of acoustic messages that are not specifically a ring-tone warning but are quality acoustic communication with the ability of magnificent perception due to the enhanced acoustic quality value thereof. Therefore, these extraneous traditional applications extract the main object of an acoustic communication system. Practically, the fundamental object of communicating over telephone systems or other communication systems is to ensure that conversations can at least be perceived sufficiently without great amount of difficulties. Unfortunately, the fixed rate of poor acoustic quality content of the traditional communication systems or interconnecting prior art of this nature basically consists of consecutive features of acoustic deficiencies that possess inadequate intelligibility in these communication applications. However, in account to these relevant objectives, the obsolete acoustic status of the traditional communication system demands modifications under the consideration that good acoustic quality is definitely critical to the definition of good acoustic perception as for as communication is concern. Therefore, the object of quality acoustic communication may compellingly be addressed only in the specific fields of transmitting and/or receiving provided reasonable acoustic quality communication to and from external existence like a subscriber(,) user or other communicative devices.

Another related prior art article (to) specified in the field of audio sound communication is patent number 6,760,323

by Strandberg, filed on July 6, 2004, which recites a system and method that are employed for providing audio communication signals over a communication system such as a computer network which is interleaved between transmitter and receiver devices using differing communication formats. The system identifies the format of the incoming digital encoded audio data signal, identifies the destination device format of the signal, and converts the data to a second digital encoded audio data signal which is compatible with the format utilized by the destination device. From that aspect, other related prior articles are patent number 5610910 by Focsaneanu et al, filed Mar. 1997, patent number 5768350 filed jun 1998 by Venkatakrishnan, patent number 6134235, 5867494 and 5892764.

According to the presentation of the prior art patent number 6,760,323, the provided system that recognize the destination device format and converts the data to audio data signal which is compatible with the format utilized by the destination device, is basically construed as a system that is employed to convert the transmitter's signals to compatible audio signals for consistent reception. Under the provided terms and conditions, this prior art and the other articles of this nature are distinctive from the present application in which variable or invariable audio enhancing circuits are provided to a communication system for enhancing and varying the audio signals of the communication system thereto enhanced acoustic quality value and for arranging the transmission medium for the conveyance of the enhanced audio signals. In this manner, high quality audio signals are provided to a communication system and are able to be communicated over a very narrow medium to improve transmission and acoustical perception of communication herein.

~~4537018 by Shiramizu (;) Takami August 27 1985~~



Other prior articles the invention contemplate basically recite audio devices such as filter networks comprising communication systems. From that aspect, these prior articles employs the use of variable frequency dividers filter circuits for filtering separating the audio frequency signals of a clock pulses so they are able to be annualized by (a) programmed input analyzer inputs devices that are responsive to audio tones and active signals from a keyboard within a predetermine frequency from an acoustic source of the communication apparatus. A musical instrument comprising a code generator that's responsive to a operating (key) for generating a code indicating (tone pitch) and another code indicating a (active operated key.) (A) second frequency could be preset (and) divide (to a) (another count value.) These frequency dividers audio devices are basically used in this these prior articles article to detect a pitch or tone that function functions from a key pad or an acoustic source and eject a band of (unwanted) frequency of the communication apparatus, so that the communication apparatus is able to coherently interact by reasoning with the key tone or acoustic source. Therefore, in in this these prior articles article sound is produce from said (keypad and not) from a verbal audio signals are predetermined by the acoustic devices for reasoning with the communication apparatus but not for enhancing or processing audio signals in which "telephone quality" audio signals are enhanced to higher quality audio signals in the communication system as in term of the present application which is tailored for providing and broadcasting the enhanced acoustic signals explicitly with the capability of variable articulate-emphasis enabling audio communication to be superbly reinforced by specified variations before and during communication. The technicalities that is provided by the prior art is exclusively designated for logical interactions with the communication apparatus but contrastingly differs from the present application because it does not at least consider the enhancement of audio signals in a communication system; wherein, said audio signals are fundamentally processed for perceivable acoustic quality and technical acoustic variations in which enable accurate communication with precise intelligibility. Therefore, the explicit emphasis of said audio signals are thereby driven to specified regions for executing high quality communication.

Although ~~multi feature options on~~ multiple extraneous features in (a) wireless ~~telecommunicating apparatus~~ telephones or communication systems are nice to have(,) such as(,) Wireless Web(,) and Voice Activated-Dialing(.) The ~~the~~ main key factors for at least reasonable perception of verbal communication such as(,) the vital technical elements which implements sound quality that's produced from (a) ~~modem~~ the audio section in a telephone. Two-way radio or other communication devices are is often overlooked or excluded in these applications, and ~~there~~ the advantages of these telephones or communication systems advantages usually rely or base on ~~there capacity to hold a plurality of~~ interaction of characteristic displays logical acoustic selective means, tone generating devices for a ringer, etc. However, ~~But~~ these different ~~function~~ features does not give a user (a) clear perception of communication ~~audio signal while communicating~~ .

Unlike ~~The~~ provided the fundamental elements of acoustic quality which is vital to verbal communication systems is submitted in the present invention "Audio-Cell" wherein audio signals are carefully ~~divided~~ emphasized thereby ~~into levels of individual~~ improving acoustic qualities (,) ~~band of frequencies and~~ explicitly processing clear audio signals various definite acoustical values for a magnificent communication procedure which define an ultimate communication system.

Further objects and advantages are to provide at least one ultimate acoustical communication method and to a communicated signal (.) To to provide (a) unique improved communicational coupling method methods herein. Audio signals are carefully emphasized to bring (a) ~~clear band of the~~ signals to a refined state in a communication apparatus. A person can communicate using a wireless or handheld communication apparatus more remotely(,) with little to no hazardous or harmful results.

Magnetic hearing aid aids (,) or headsets (,) coupled to a communication apparatus occupies a users hearing capacity therefore ~~put~~ puts a person at risk to any potential ~~operating~~ operational hazard.

(A) Two major ~~advantage~~ advantages of the present application invention ("Audio-Cell") (is)(,) ~~are~~ (it's) its convenient ~~no touch remote communicating communicative featur~~ features(,) in which verbal communication can be executed with more harmonic focus ~~remotely~~. Another object and advantage of this present application is the technical acoustical emphasis, which has an imperative impact on the application and includes a degree of variables, which is adopted for decisive acoustic evaluations. Thereby, these special characteristic emphases that is provided in this present article explicitly stresses a high grade of audio qualities that are variably predetermine by specified values.

- a) ~~One can control~~ This present phenomenon enables alternative variations of high quality communication signals in a wireless communication ~~device~~ device ~~from (a) to be~~ distributed to an distinct extraneous audio system.
- b) The present article (To) give incorporates a variation of variable quality acoustic elements which technically submits a crystal clear quality to communication and ~~enabling~~ enables a user to receive and transmit communication to his or her selected preference.
- c) The present article (To) (give) gives ~~motorist~~ motorists and ~~civilians~~ pedestrians an option to operate a communication apparatus safely without breaking the law ~~and govern~~ while varying variable communication signals communication to there to their ~~those~~ designated values meanwhile communicating, or prior to a cycle of communication.

## Drawing Figures

In the drawings, closely related figures have the same numbers but different alphabetic suffixes.

Fig. 1 (Show) briefly demonstrates a signal flow chart illustrating a simplex-mode audio enhancement procedure that includes the illustration of original audio signals and three divided band bands of enhanced audio signals flowing throughout (a) an entire audio enhancing circuit connected to a communication system which thereby form a simplex mode audio enhancement communication system.

Fig. 2 (show) show a perf-board an electronic circuit board without any components.

Fig. 3A to 3J 3F (show) provides brief illustrations that consist of (a) Schematic diagram schematic diagrams of constituent audio enhancing circuits such as band-pass filter circuits (a) input-output point(,) and illustrates demonstrates connections connection procedures to form an audio enhancing circuit and to connect from the formed audio enhancing circuit.

Fig. 4A to 4G 4H (show) briefly shows (a) basic schematic diagram diagrams of tunable means, switches control means and illustrate illustrates connections to audio enhancing circuits.

Fig. 4D briefly illustrates a battery connection procedure to an audio enhancing circuit such as a crossover network circuit.

Fig. 5A to 5H ~~show~~ shows pictorial and schematic diagrams of an integrated coupling medium and illustrates connections.

Fig. 6A ~~show~~ shows (a) basic schematic diagrams of an amplifying audio enhancing circuit connections, which include a 3-way crossover circuit, a preamplifier circuit, and a section (,) three three-channel divided input (channels,) and a method of connection procedure.

Fig. 6B , Fig. 6E, Fig. 6F and Fig 6G ~~show~~ shows schematic diagrams of the a ~~show~~ receiving output section of a receiver and illustrates preconditioned output connection procedure connections to (a) of external audio port or external audio section to an independent audio reproductive system for the presentation of an external dispensable voluntary communication-coupling procedure.

Fig. 6C briefly illustrates ~~illustrated~~ connections from a ~~receiving~~ receiver circuit section to (a) displaying means.

Fig. 6D briefly illustrates ~~basic connections~~ channel connection procedure that may apply for the employment of an audio enhancing circuit such as a 3-way crossover circuit to with a receiving input section audio enhancing circuit such as a preamplifier circuit and channel connections to communication device such as a transmitter device, a transmitting hybrid network device and a receiver device input section (,) and amplifier's out-put terminals.

Fig. 7A to 7F ~~show~~ demonstrates an external voluntary dispensable coupling method which illustrates pictorial diagrams of exterior connections(,) from a communication device to a distinct reproducing a motor vehicle's extraneous reproductive audio system. (,) located in (a) motor vehicle(.)

Fig. 8 ~~show~~ briefly illustrates a basic schematic ruff rough draft diagram of an entire constituted a simplex mode audio enhancement communication procedure which employs one or more audio enhancing circuit connected to a communication system thereby implements an entire audio enhancement communication system.

Fig. 9 ~~show~~ briefly shows a basic flow chart diagram of a simplex mode acoustic enhancement communication procedure which employs one or more audio enhancing circuit which is able to produce at least one single channel flow-chart or at least one band consisting of at least one or three second bands of audio signals that flows throughout of (a) an entire system's signal flow enhancement communication system.

Fig. 10 A to 10-B 10 C ~~briefly~~ illustrates external the procedure of external operation tuning and adjusting of at least one, at least two or at leas three audio enhancing circuits connected to a communication system which thereby implements an acoustical enhancement communication system for operation.

Appn. Number: 10/050,193

Appn. Filed 01/16/2002

Reply to Non-Compliant Amendment of 11/8/04 and Office action of 8/8/05

### **Amendment to the Specification**

Please add the following **new** section of drawing figures to the drawing figure section of the specification after page [13]:

[Page 13.1 etc] Fig. 1A briefly demonstrates a signal flow chart illustrating a two-way or duplex-mode audio enhancement communication procedure that includes original audio signals and three divided bands of enhanced audio signals flowing through at least two audio enhancing circuits that are connected to a communication system which thereby forms a duplex-mode acoustic enhancement communication system.

Fig. 3H to Fig. 3J illustrates novel connection terminals and connection procedure in which a three-way crossover network circuit is converted into a one-way audio enhancing circuit to form an acoustic enhancement circuit such as a variable one-way crossover network circuit or variable acoustical composite filter circuit for connections to a communication system.

Fig. 8 A shows a schematic rough draft diagram illustrating connections of an entire duplex-mode acoustical enhancement communication system which employs an audio enhancing circuit such as a crossover network circuit having one control unit, which thereby respectively controls transmitting audio signals and receiving audio signals.

Fig. 8 B shows a schematic rough draft diagram illustrating connections of an entire alternative duplex-mode acoustic enhancement communication system which employs an audio enhancing circuit such as an audio equalizer circuit having one control unit that respectively controls transmitting audio signals and receiving audio signals.

Fig. 8 C shows a schematic rough draft diagram illustrating connections of an entire alternative duplex-mode acoustic enhancement communication system which employs two stereophonic circuits and provide an alternative stereophonic technique using two summing amplifiers and an inverting amplifier.

Fig. 8D shows a rough draft diagram illustrating connections of a stationary house, residential, commercial communication system or telephone system in which employs an audio enhancing circuit such as an audio equalizer circuit for the formation of a duplex-mode acoustic enhancement communication system.

Fig. 8 E shows a schematic rough draft diagram which demonstrates connections of an entire duplex-mode acoustic enhancement communication system which employs a variable one-way crossover network circuit or variable acoustical composite filter circuit having one control unit that respectively controls transmitting audio signals and receiving audio signals.

Fig. 8 F shows a schematic rough draft diagram illustrating novel terminal connections of complete duplex-mode audio enhancement communication system.

Fig. 8 G illustrates a schematic rough draft diagram illustrating connections of an entire duplex-mode acoustic enhancement communication system which employs two autonomous control units which are independent to each other and independently controls transmitting audio signals and audio receiving signals.



Fig. 8H and Fig. 8I illustrates a schematic rough draft diagram , which demonstrates connections and novel connections of an integrated duplex-mode selective acoustical-enhancement communication system to form a selective 1/3-way crossover/preamp/EQ acoustic enhancement communication system.

Fig. 9A demonstrates a signal flow chart that illustrates one band or one channel of enhanced audio signals flowing through an entire acoustical enhanced duplex-mode communication system and expresses the modification procedure of original audio signals of an acoustic source and a remote communication device.

Fig. 9B illustrates a technical multiplex communication procedure for the conveyance of high quality audio signals on a limited communication spectrum that would commonly band the specific range of signals from the specific communication spectrum from the transmitting end.

Fig. 9C illustrates a technical multiplex procedure for the conveyance of high quality audio signals on a limited communication spectrum , which would normally band the specific range of signals from the specific communication spectrum from the receiving end.

reply to Notice of **Non- Compliant Amendment** of 11/8/04 and **Office action of Election/Restriction** of 8/

Appn. Number: 10/050,193

Appn. Filed 01/16/2002

Reply to Non-Compliant Amendment of 11/8/04 and  
Office action of 8/8/05

**Amendments to the Specification:**

Please replace the following section of reference numbers from page [14 to 18] with the following amended reference numbers page:

[Page 14-18]

***Reference Numeral In Drawings***

- 11      ~~base of filter~~ electronic circuit board
- 14      negative terminal
- 15      positive terminal
- 17      audio integrated coupling medium
- 18      wire conductor
- 20      capacitor
- 21      inductor
- 22      male connector
- 23      female connector
- 24      signal flow
- 25      input terminal
- 26      output terminal
- 27      ~~displaying~~ display means
- 28      ~~amplifying~~ preamplifier section
- 33      (transistor) transistor-unit

- 34      ~~High~~ high band filter circuit
- 35      ~~Low~~ low band filter circuit
- 36      ~~Midrange~~ ~~bad~~ band-pass midrange filter circuit
- 37      ~~Engagement~~ engagement
- 38      ~~Tweeter~~ tweeter
- 39      ~~Midrange~~ midrange speaker
- 40      ~~Woofers~~ woofer speaker
- 41      communication apparatus
- 42      ~~Filter~~ filter circuit
- 43      ~~Cross~~ cross section
- 44      ~~Conductor~~ conductor
- 45      ~~Battery~~ battery
- 46      ~~Center~~ center pole
- 47      ~~Crossover~~ crossover network circuit or audio enhancing circuit
- 50      one element
- 51      two element
- 52      load resistor
- 53      signal flow

- 54 IC ~~chip~~ time circuit
- 55 ~~Variable~~ variable pole
- 56 ~~Variable~~ variable pole
- 57 ~~Variable~~ variable pole
- 58 variable pole
- 59 variable pole
- 60 variable pole
- 61 (Plug) audio plug for audio cable
- 62 ~~reproducing~~ reproductive audio system ~~from~~ of a motor vehicle or independent  
reproductive audio system
- 63 audio input section ~~from~~ of a motor vehicle's audio system
- 64 Vee vcc terminal
- 65 ~~Tune~~ variable resistor
- 66 ~~Earth~~ earth ground terminal
- 67 ~~Opposite~~ opposite end
- 68 ~~Bottom~~ bottom end of a communication apparatus

- 69     ~~One~~ one side of a communication apparatus
- 70     ~~Contact~~ contact point
- 71     (Keypad) external monitor section or external control section
- 72     ~~The~~ the shell of a plug
- 73
- 74     high-range frequency signals ~~signal~~
- 75     midrange frequency signals ~~signal~~
- 76     low-range frequency signals ~~signal~~
- 77
- 78     ~~Volume~~ external volume switch
- 79     ~~Top~~ top of external switch
- 80     ~~Bottom~~ bottom of switch
- 81     (Notch) notch of external switch
- 82     (Knob) knob of variable external switch
- 83     ~~Tuner~~ variable external switch
- 84     ~~Microphone~~ microphone
- 85     ~~Receiving audio~~ receiver ~~section~~
- 86     ~~transmitting audio~~ transmitter ~~section~~
- 87     audio port

reply to Notice of **Non- Compliant Amendment** of 11/8/04 and **Office action of Election/Restriction** of 8/

Appn. Number: 10/050,193

Appn. Filed 01/16/2002

Reply to Non-Compliant Amendment of 11/8/04 and Office action of 8/8/05

### **Amendment to the Specification**

Please add the following **new** section of reference numbers to the drawing numeral-reference section of the specification in consecutive order after page [18]:

[Page 18.1 etc.]

- 73 alternative audio enhancing circuit
- 77 transceiver
- 88 full range speaker system
- 89 remote communication audio signals
- 90 input gain-control circuit
- 91 high-range frequency-gain control circuit
- 92 midrange frequency-gain control circuit
- 93 low-range frequency-gain control circuit
- 94 variable frequency control circuit
- 95 threshold control circuit
- 96 radio frequency amplifier circuit
- 97 demodulator circuit
- 98 audio amplifier circuit
- 99 stereophonic circuit or audio enhancing circuit
- 100 audio equalizer circuit or audio enhancing circuit

- 101 first communicative channel of audio enhancing circuit
- 102 second communicative channel of audio enhancing circuit
- 103 one-way crossover network circuit, acoustic composite filter circuit or audio enhancing circuit
- 104 hybrid network
- 105 anonymous or poor quality remotely communicating signals
- 106 enhanced signals
- 107 antenna
- 108 remote transmitter
- 109 remote receiver
- 110 a first external monitor section
- 111 variable external bandwidth and/ millisecond-control circuit
- 112 a second external monitor section
- 113 variable external treble control circuit
- 114 variable external bass control circuit
- 115 variable external high frequency range control circuit
- 116 variable external band-pass range frequency control-element
- 117 variable external low frequency range control-element
- 118 variable external dB gain control-element
- 119 selection switch
- 120 external variable sub-master control circuit
- 121 internal control unit
- 122 stationary communication system
- 123 internal variable master control circuit

reply to Notice of **Non- Compliant Amendment** of 11/8/04 and **Office action of Election/Restriction** of 8/

Appn. Number: 10/050,193

Appn. Filed 01/16/2002

Reply to Non-Compliant Amendment of 11/8/04 and  
Office action of 8/8/05

### **Amendments to the Specification:**

Please replace this section of the specification page [19 to page 46] with the following amended section of the specification:

#### **Detail Description**

[19-46] In the illustration Fig. 2, ~~the~~ an integral portion of content for electronic integrated elements embark on a circuit board 11 which is the base of (a) filter ~~circuit~~ circuits or audio enhancing circuits according to the provided application. It is (a) ~~thin piece of Perf-board~~ an electronic circuit board made of a plastic material or semi-conductive silicone materials. The board is 2x2 in length and 2x2 in width and it is employed to integrate electronic elements during the composition procedures of audio enhancing circuits and connections thereof. ~~It can~~ The circuit board may be miniaturized into a micro chip for a better enclosure(,) or it ~~can~~ may be modified (in) any to various dimensions or formations and tailored to encompass relative applications of the presented nature formation depending on the criteria of the application thereof.



The following specification refer to an audio enhancing circuit such as an audio enhancing circuit that is designed for enhancing audio signals or original audio signals that derive from a source of interest such as at least one acoustic source which may be vocal acoustic source. Said audio enhancing circuit is an audio processing circuit such as an audio equalizer circuit or other audio circuit that enhance audio signals such as a crossover network circuit in which enhances said originals audio signals to refine acoustic value or perimeter for the conveyance of the enhanced audio signals for means of enhanced acoustic communication. Furthermore, said audio enhancing circuit consist of at least one audio input port or at least one audio input section that is capable of inputting said original audio signals from said acoustic source to said audio enhancing circuit, and further said audio enhancing circuit is able to be integrated with other audio enhancing circuits herein. Therefore, the integration of said audio enhancing circuit is capable of implementing comprehensive audio enhancement communication procedure thereof. For the conveyance of high quality audio signals herein, multiplexing technique may apply as stated in the subsequent section hereof. Under the provided terms, the The description Fig. 3E below illustrates (a) an audio enhancing circuit such as said crossover network circuit connecting to (a) the input port coupling means(,) for a responding the correspondents of said original audio signals from said acoustic source such as a microphone; in which, the microphone then input outputs signals that thereby emits to said crossover network circuit. Thus, the communication procedure employs the enhanced audio signals with the corporation of the audio enhancing circuit which process the signals to refined degrees according to variable technical arrangements herein. This procedure implements a mode that communicate enhanced acoustic signals in at least one direction. Therefore, this method is entitled *The One-Way Audio Enhancing Communication Method*.

Fig. 3E illustrates(,) (a) ~~port coupling means~~ an input-port 87 for inputting said original audio signals from the output section of the microphone thereby connecting said original audio signals from said output section of said microphone to the main input 25 of a high band-pass filter circuit in of a crossover network circuit. From the positive terminal 15 of a high band-pass ~~one element~~ one-element filter circuit, a contact is made to a conductor 44. From the opposite end of the same said conductor, a contact is made to the positive terminal 15 of (a) the ~~port coupling means~~ input-port 87 for inputting said original audio signals of said microphone. From the negative 14 terminal of the same input-port ~~port coupling means~~, a connection is made to the negative terminal of said high band-pass ~~band-pass~~ one element filter circuit.

~~Fig. 11~~ Fig. 4D illustrates (a) the connection of a 5-volt battery from (a) the power source of a communication apparatus ~~apparatus's power source~~ (,) to a crossover network circuit or audio enhancing circuit. The positive terminal **15** from a one-element high band-pass filter circuit is connected to a conductor. At the opposite end of said conductor, a contact is made to the positive terminal of a 5 volt battery **45**. The negative terminal **14** of the same battery is connected to a conductor. From the opposite end of the same conductor, a connection is made to the negative terminal of a one element low band-pass filter circuit.

Fig. 3C ~~show~~ shows a schematic diagram of three band-pass filter ~~circuit~~ circuits and illustrates the ~~forming~~ formation of a crossover network circuit, which is provided to this application as an audio enhancing circuit tailored for the incorporation of a communication apparatus. A ~~one-element~~ one-element high band-pass filter circuit **34**, lay adjacent to a ~~two element~~ two-element **51** high band-pass midrange series filter circuit **36** (**34**). A ~~one element~~ one-element low band-pass filter circuit **35**(,) lay adjacently below ~~both~~ the one-order high band-pass filter circuit and the two order band-pass midrange filter circuit circuits. In the illustration Fig. 3C and 3A, the elaboration of constituent elements expresses the constitution of an audio enhancing circuit such as a 3-way crossover network circuit. From one end of an inductor from (a) the low band-pass filter circuit's positive terminal, **15** an intersection is made, crossing **43** (a) the negative conductor **44** of (a) the high band-pass two-element (**51**) mid-range filter circuit and ~~making~~ makes a connection **70** at the positive terminal **15** of ~~the same said~~ high band-pass two-element midrange filter circuit(,) ~~coming~~ and comes in contact with one side of a series coupled inductor **21**.

From the same contact **70** point of the band-pass filter circuit, another intersection is made crossing **43** a second negative conductor **44** of (a) said high band-pass one-element **50** filter circuit(,) and making contact **70** at the circuit's positive terminal(,) **15** and one side of a capacitor. From the negative terminal **14** of (a) the same low band-pass one-element filter circuit(,) (A) a connection **70** is made(,) to (a) the negative conductor (**44**) of (a) said high band-pass two-element midrange filter circuit. From the negative ~~conductor~~ conductor's connection point **70** of ~~the same high~~ said band-pass two-element midrange filter circuit, a second contact is made to the negative terminal (**14**) of (a) said high band-pass one-element filter circuit(,) by the main input terminals of said crossover network circuit herein.

Fig. 3A shows a formed crossover network circuit and demonstrates the flow of audio signals. A three-way crossover network **47** is then formed, leaving a main input section 25 at the high band-pass one-element filter circuit's terminals or the low band-pass filter circuit's terminals. From the main input section of the crossover network circuit, Output signal output signals 26 flows flow 53 to the opposite side of the circuit's terminals(.) as illustrated Illustrated in Fig. 3B; (,) where in which, the low low-range signal audio signals 76 outputs output at a low band-pass one-element filter circuit, the high signal high-range signals 74 output at a high band-pass one-element filter circuit, and the midrange signal,(,) signals 75 outputs output at a two-element high band-pass filter circuit.

Illustrative Fig. 4H illustrates a method of constituting control means in an audio enhancing circuit such as a crossover network circuit which incorporates a communication system in which thereby enables the acoustic enhancement communication system to tune and control audio signals while communicating said audio signals to a corresponding communication system therein. At least one of each control element may apply to this application as follows: a variable master volume input dB gain control circuit 90 connected to the main input terminals of a crossover network circuit for generally varying the gain or volume of input signals, a variable millisecond delay control circuit 54 connected to said crossover network circuit, a variable low dB gain control circuit 93 connected to a section of the low band-pass filter circuit 35 for varying the gain of low band range audio signals, a variable low-range frequency control circuit 94 connected to the low band range filter circuit whereby varying the frequency range of low-band pending audio signals thereof, a variable high frequency gain control circuit connected to a section of the high band-range filter circuit 34, a variable mid frequency gain control circuit 94 connected to the two element mid band pass filter circuit 36 for varying the gain of mid-band range audio signals, a high frequency dB gain control circuit 94 connected to the one element high band-pass filter circuit for varying the gain of high range audio signals, and a threshold dB control circuit connected to said crossover network circuit. Fig. 4E ~~show~~ shows a switch, (a) an IC chip, control means tunable means and peaking means(,) and illustrates the constitution of a unique an integrated control circuit of an audio enhancing circuit such as a crossover network circuit. The center pole of a switch ~~comes in contact with~~ is connected to a MF8 IC timer ~~chip~~. The diagram in Figs. 4A to Fig. 4G and ~~Fig 4E~~ illustrates illustrate connections of a switch and (a) an IC chip timer. From a positive 5-volt 5-volt positive Vee terminal, 15 contact 70 is made to the center-pole 46 of a multi-position rotary switch. From (a) an output (26) ~~point section~~ of the IC timer chip 54, a contact (70) is made to (a) the conductor of a male connector. The male connector thereby engages 37 with a female connector.

From the opposite end of the same female connector's conductor, **44** a contact is made to one side of a tunable ~~resistor's~~ resistor **65**. From the connection point **70** of the tunable resistor, a connection is made to the positive terminal **15** of a one-element high band-pass filter circuit. From the output section of a one-element low band-pass filter circuit, a connection is made to the opposite side of the same tunable resistor then to a conductor of a male connector. The male connector then engages with a female connector. The female connector's conductor then ~~make~~ makes a contact **70** to the negative **14** output terminal of the same acoustic IC timer chip.

The multi-position rotary switch connections are voluntarily provided to the one-way communication method and the multi-position rotary switch and its connections are not important elements of the control means, control units, the audio enhancing circuits or this application in its entirety. Therefore, due to it's inessential characteristics that may apply with the employment of said multi-position rotary switch, as result, employment of the rotary switch in the audio enhancent communication system may be completely omitted from this application in its entirety. Thereby, the communication procedure retains the ultimate variable or invariable audio enhancement communication system herein. Fig. 4 A illustrates a multi-position rotary switch connecting at the input of a ~~crossover network~~ crossover network circuit for the variation of operational adjustments within a communication system and the crossover network device. Horizontally to (a) the right from the center pole 46(.), (A) a variable pole 55 using a conductor, **44** makes a contact **70** to the negative input terminal **14** of a low band-pass **34** one element **(50)** filter circuit. From the positive terminal **15** of the same low band-pass filter circuit, a conductor makes a connection at it's opposite end to a variable pole, which is pole number **56**, the pole that is adjacent to pole **55**. The pole (that's) that is vertically upward from the center pole **46** is pole **57**. From a conductor, pole **57** makes contact with the negative terminal **14** of a ~~high~~ band-pass midrange **36** two element **51** filter circuit.



From the positive input terminal **15** of the same, two order element ~~high~~ band-pass **(34)** midrange **(36)** filter circuit, 36 a (.) (A) conductor makes contact with a variable pole adjacent to pole 57, which is pole **58**. From a conductor, a pole **60** horizontally to the left from the center pole **46** makes contact to the conductor's opposite end(,) then to the positive input terminal **(15)** of a high band-pass one element **50** filter circuit. A variable pole **59** that's adjacent to pole **60**(,) then makes contact from a conductor's end(,) to the negative terminal **14** of the same high band-pass one element filter circuit thereby forming a section of the control means thereof.

Fig-4C In the illustration Fig. 3F, the diagram consist consists of more than one audio channels channel and illustrates a connecting connection method, thereby illustrating demonstrating connections from a ~~amplifier~~ crossover network circuit or an alternative audio enhancing circuit 73 as a primary circuit to (a) an audio preamplifier circuit 28. crossover network In this application as stated above, an audio equalizer circuit or other audio enhancing circuits may be individually adapted in substitute of said crossover network circuit or additionally it may simultaneously be integrated with other audio enhancing circuits. In this context, said audio preamplifier circuit is able to be positioned as a primary audio enhancing circuit and therefore the application is able to subsequently position said audio equalizer circuit and said crossover network circuit thereby respectively configuring the enhancement procedure of said audio signals accordingly for the generation of quality perceivable communication signals hereof. The transistor elements used in the illustration shows (several) (engagements) from (a) crossover network (circuit,) to the input (of) (an) amplifier (circuit.)

~~Illustrated in (Fig.) 6A-Fig 6C and Fig. 3D illustrates a three divided channel connections connection-procedure from the output of a crossover network circuit. (,) Fig. 6A illustrates connections to the input of a amplifier circuit an audio preamplifier circuit from a crossover network circuit. This One-Way-mode Audio Enhancement Communication Method may employ the preamplifier circuit which is utilized hereafter to input enhanced pre-amplified audio signals into a transmitter as the primary audio enhancing circuit inverse to the technical arrangements of the one-way audio enhancing method as stated below. Therefore, the application would practically initiate the procedure with said preamplifier circuit as the first audio enhancing circuit then the crossover network circuit as the second audio enhancing circuit. Conformably, with respect to controversial reasoning, said preamplifier circuit may be completely extracted from this one-way audio enhancing communication method to comply with the presented criterions of the designated application.~~

Fig. 3C shows an input point and (a) output ~~point~~ points ~~on~~ of said crossover network circuit. Together, illustration Fig. 3C, Fig. 3D, and Fig. 6A shows output and input connections whereby constituting a connection method for communicating enhanced audio signals to a communication system. From the positive **15** output terminal of a high band-pass **34** one-element (50) filter circuit, contact is made to the conductor of a male connector(.) **22**. From the same male connector, an engagement is made with a female connector **23**.

From (a) the female connector's conductor, a contact is made to the positive input base terminal **15** of a ~~transistor~~ transistor-unit 33 at the first channel of the audio preamplifier circuit. From the input negative earth ground terminal **66** of the same ~~transistor~~ transistor-unit of said audio preamplifier circuit, at said first channel, a contact is made to the conductor of a female connector **23**. From the same female connector an engagement is made with a male connector **22**. From the same male connector's conductor, **44** a contact is made to the negative output **26** terminal **(14)** of (a) the one-element ( 50) high band-pass **34** filter circuit. From a second channel at the an input load resistor's 52 positive terminal(,) **15 of an input load resistor 52 of a second transistor-unite of said audio preamplifier circuit, a contact is made to the conductor **(44)** of a female connector **23**.**

From the female connector, an engagement is made with a male connector 22. From the same male connector's conductor, (44) a contact is made at the output 26 positive terminal 15 of a two-element (51) high band-pass (34) midrange filter circuit 36. From the negative output terminal 14 of ~~the same said~~ band-pass two-element midrange filter circuit, (.) (A) a contact is made to the conductor (44) of a male connector (22). From the same male connector, an engagement is made to a female connector 23. From the same female connector's conductor, a contact 70 is made at (a) an earth ground 66 negative terminal (14) of (a) the second audio transistor transistor-unit 33 of said second channel of said audio preamplifier circuit.

From a ~~second~~ third transistor unit 33 of ~~said a third channel of the same audio~~  
~~amplifying preamplifier circuit section~~, a contact is made from the positive terminal **15** of (a)  
said second transistor transistor-unit (,) at the base input terminal(,) of said audio  
preamplifier circuit to the conductor of a female connector. From the female connector, **23**  
 an engagement is made to a male connector **22**. From the same male connector's conductor,  
 contact is made at the positive terminal (**15**) of a low band-pass **35** one element (**50**) filter  
 circuit. From the same ~~low-band~~ (**34**) low band-pass one-element (**50**) filter circuit's ~~output~~  
 negative output 26 (**14**) terminal terminals, a negative connection **70** is made to the  
 conductor **44** of a male connector. From ~~the same~~ said male connector, of the low band-  
 pass filter circuit an engagement (**37**) is made with ~~another~~ a female connector. From ~~the~~  
~~same~~ said female connector, a connection is made to (a) an input earth ground negative  
 terminal of ~~the same~~ said third channel of said third transistor-unit audio amplifier's  
transistor of said audio preamplifier circuit.

In reference to acoustic signal band or channel configurations, a subsequent method is provided hereafter which is entitled *The Lineal Value-1 Downward Modification Technique* in which explicates the lineal technique in a prospective application where the employment of three or more divided bands of audio signals may alternatively be substituted with the substantial conditions that implement conservative techniques which provides the employment of an at least one channel or at least a one band filter circuit of which employs at least one band of enhanced audio signals or the lineal technique employs at least one channel of enhanced audio signals adopted for improving at least one audio frequency tone or for channeling one or more band of audio signals that derive from the same acoustic source. Therefore, the one band of audio signals is capable of being employed in substitute of said at least three divided bands or channels of audio signals. Whereby, the one-band technique respectively communicating the at least one enhanced- band or channel of audio signals to a secondary audio enhancing circuit or an audio reproductive circuit of a communication system. Thereby, driving at least one full range speaker or virtually driving a multi-range speaker system just as if it was a three-way crossover network, two-way crossover network or other frequency divider circuit. On the other hand, in comparison to the downward modification technique as stated thereafter, the audio enhancing circuit that is employed in this following diagram, implements three bands of enhanced audio signals which, thereby emphasizes three acoustic fields herein. From the technical aspect, Fig. 1 briefly illustrates a plurality of band audio signals(,) produced from a ~~crossover network~~ 3-way crossover network circuit flowing throughout the an entire one-way communication system in at least three divided channels and Fig. 6 D illustrates connections of this nature. From a microphone **84**, as illustrated in Fig. 1, a ~~plurality of~~ audio signals flows flow to a ~~crossover network~~ 3-way crossover network circuit. From (a) ~~said crossover network~~ 3-way crossover network circuit 47, at least three ~~are less individual band~~ bands of audio signals are injected into to (a) an audio amplifier section preamplifier circuit.

From ~~a audio amplifier~~ said audio preamplifier circuit 28, as illustrated in connection Figure 6D, (a) high frequency band range of output signals **74** demonstrated in Figure 1 flow chart, (is) are connected to an ~~the~~ input channel of (a) ~~a transmitting audio section transmitter~~ **86**. From a mid-range band of output ~~signal~~ audio signals 75 from said audio preamplifier circuit amplifier, a second connection is made to a second input channel of said ~~transmitting audio section transmitter~~. From a low band range of output ~~signal~~ signals 76, a third connection is made to a third input channel of said ~~transmitting section transmitter~~. From the output section of said transmitter, the three bands of audio signals are connected to the input of a hybrid network 104. From the output section of said hybrid network, said three bands of audio signals are then respectively connected to the input of a receiver 85; in which, the three bands of signals that are connected from the output section of said hybrid network are received as passively enhanced audio signals which are provided for a side tone hereof.



Fig. 1 roughly illustrates signal flows a diagram of a one-way or a simplex-mode acoustic enhancement communication procedure consisting of an audio enhancing circuit that generates three bands of enhanced audio signals which thereby flow throughout the selectable components of the communication system for producing explicit audio signals thereof. Said communication system also consists of a hybrid network that is employed for producing a side tone in said communication system. In this manner, a box diagram demonstrates the flows of signals from (a) audio- an acoustic source such as a transducer **84**. From the output section of the microphone, plain or original audio signals are injected into a primary audio enhancing circuit, which happens to be a 3-way crossover network circuit, that hereby produces three bands of enhanced audio signals, thus, a band of high-range audio signals, a band of midrange audio signals and a band of low-range audio signals. From the output section of said 3-way crossover network circuit, the three bands of crossover audio signals are respectively injected into three channel of an audio preamplifier. From the output section of the preamplifier, the three bands of pre-amplified audio signals respectively flows into three input channels of a transmitter ~~contact point to the input channels of a receiving audio section~~ . From a first output channel of said transmitter, 70 (a) high-range high-range band of audio -output frequency signals from said transmitter (,) (a) contact 70 is made flows to a first input channel of said hybrid network then outputs into to one a first input channel of a receiving receiver section. From a midrange second output channel of said transmitter midrange band of output signals contact-point audio signals 70, (a) flows connection is made to a second input channel of said hybrid network. From a second output channel of said hybrid network, said midrange band of audio signals flows to a second input channel of said receiving audio section receiver. From a low third output channel of said transmitter, a low-range band of output audio signals contact-point (70,) a third flows connection is made to a third input channel of said hybrid network herein. From a third output channel of said hybrid network, said low band range of audio signals then flows to a third input channel of said receiving audio section receiver hereof. Fig. 6C illustrates display means respectively coupling to said receiver and Fig. 1 illustrates a block diagram of signal flowing throughout the communication system therein respectively flowing through said displaying means which results with the capabilities of exhibition for balancing and monitoring acoustic levels herein. In Fig. 6C, (A) a display apparatus 27 is coupled respectively to said the transistors of the receiver thereby displaying the status of the audio signals of said communication system herein, receiving output signals then to an integrated cable where it then couples (with a) (external audio system.)

Fig. 6D Shows a schematic diagram of a transceiver that illustrates a three channel connection procedure which may be consequently employed for connections that follows the employment of an audio enhancing circuit that may consist of more than one channel such as a 3-way crossover network circuit. In that respect, the diagram briefly demonstrates inside connections from (a) an audio preamplifier circuit amplifier to the input of a primary audio circuit of a transmitter and from the output of said transmitter to a hybrid network and out from said hybrid network and into a receiver. ~~receiving-section and a transmitting input (section.)~~ In the illustrative description below, connections initiate from a secondary audio enhancing circuit, which happens to be an audio preamplifier circuit 28. From the audio enhancing preamplifier circuit, output audio-input channels are first connection connected to a transmitting-section transmitter 86. Fig. 6D illustrates connections of the further elaborate terms as follow. From a first channel of said audio enhancing preamplifier circuit, a (A) positive input connection is made to the positive 15 base terminal of a transistor-unit (,) in of (a) said primary audio circuit, such as an audio amplifier circuit of said transmitter transmitting-audio-section. From said first channel of said audio enhancing preamplifier circuit, a (A) negative 14 input connection is made to the earth ground terminal 66 of the same transistor-unit (,) in of said primary audio circuit of said transmitter audio-section. From a second output channel of said audio-enhancement preamplifier circuit, a (A) positive (15) input connection is made to the base terminal of a second transistor-unit in of said primary audio circuit of said transmitter said-transmitting audio section.

From said second output channel of said audio enhancing preamplifier circuit, a (A) negative input connection is made to the earth ground 66 terminal of said second transistor-unit of the transmitter section. From a third output channel of said audio-enhancement preamplifier circuit, a (A) third input connection is made to said second-transistor's the positive base terminal of a third transistor-unit in of said audio transmitter section. From said third output channel of said audio enhancement-preamplifier circuit, an (A) input connection is made to another a ground terminal of said third second transistor-unit (,) in of said audio transmitter section. From the output section of the transmitter, three output channels of the transmitter are respectively connected to three input channels of a hybrid network.

Fig 6D illustrates (a) an audio input connection(,) procedure from three out channels of the hybrid network ~~the above plurality of audio sections~~ to three input channels of a receiving section. From a first output channel of the hybrid network, a (A) positive 15 input connection is made to the base terminal of a transistor transistor-unit (,) in (a) of the ~~receiving audio section~~ receiver 85. from said first output channel of said hybrid network, a (A) negative input connection is made to the earth ground terminal **66** of the same ~~transistor transistor-unit (,) in~~ of said audio-section receiver. From a second output channel of said hybrid network, a (A) positive input connection is made to the base terminal (15) of a second transistor transistor-unit of said receiver. From said second output channel of the hybrid network, a (A) negative input connection is made to the earth ground terminal of said second transistor transistor-unit of said receiver. From a third output channel of said hybrid network, a (A) third input connection is made to the ~~said second transistor's~~ positive base terminal of a third transistor unit of said receiver.

A ~~third~~ connection is then made from the same third output channel of said Hybrid Network to another input ground terminal of said ~~second transistor~~(,) third transistor-unit in of said ~~receiving audio section~~ receiver herein. In the diagram Fig. 6D, a schematic rough draft provides the illustration of a transceiver, constituent sections, a receiver or a segment of said receiver and diverse view of segment of the communication system in which enhanced audio signals flows from the output terminals of the receiver to a speaker system.

Fig. 1 and Fig. 3F illustrates diagrams of a signal flow chart showing signals flowing from the output section of a receiver to three separate band ranged speakers thereof. From (a) an out-put output contact-point channel of from said the receiving receiver section, high frequency audio signals (is) are connected to a tweeter **38**. From a second output ~~contact~~ point channel of from said receiving receiver section, midrange frequency audio signals (is) are connection connected to a midrange speaker **39**. From a third output channel contact point from of said receiving receiver section, low range frequency audio signals (is) are connected to a woofer speaker **40**.

An external dispensable port or external acoustic-connection implement a dispensable coupling method which is entitled *The Reconcilable Voluntary Dispensable Coupling Method*. This extraneous coupling-method is briefly expressed in the following interpretations.

Illustration Fig. 6B(.), Fig. 6E, Fig. 6F and Fig 6G Illustrates (a) connection demonstrates connection procedure which is precondition according to the conditions that an audio enhancing circuit provides. For instance, a 3-way crossover network produces 3 bands of audio signals. Therefore, Fig. 6E illustrates the specified coupling arrangements of this manner etc. Accordingly, connections are made from (a) an autonomous indispensable receiving receiver section of a communication system to (a) an external dispensable output-section coupling, audio port, or a wireless acoustic system having said output audio section adapted for the voluntary external coupling procedure that incorporates an audio reproductive system of a motor vehicle or other independent audio reproductive systems with a communication apparatus thereof. From the positive 15\_collector output terminal of a transistor(,) (on) of a receiving receiver section, a connection 70 is made to a series capacitor. At the opposite end of said capacitor series capacitor, contact is made to the positive terminal (15) of (a) female port coupling means the dispensable output port 87 of the receiver. From the negative terminal 14 of said port\_coupling means dispensable output port, a conductor 44 comes in contact with (a) an earth ground terminal at the opposite end of said conductor in of said receiver.

Fig. 5A to 5G. shows (a) an audio cable comprising (a) an integrated circuit(,) adopted to couple externally with a communication apparatus and oppose a band of frequency. ~~wherein~~ Wherein, a ~~positive~~ right side conductor wire is parallel to a ~~negative~~ left side conductor wire and they both flow in a separate parallel motion, having one side of the circuit conducting low ~~rang~~ range frequency and the other side conducting high range frequency. ~~The internal~~ Internally, the integrated cable ~~consist~~ consists of(,) two wires which runs parallel until the output plug contact points. The cable further ~~consist~~ consists of two separate filter ~~circuit~~ circuits (,) adjacent to each other. Said integrated circuit is an insignificant segment of said audio cable. Therefore, the integrated circuit is not essential to said audio cable. Consequently, an alternative method of coupling the cable from said communication apparatus to an external reproductive system may exclude or omit said integrated circuit from the application. Thereby, said audio cable will be able to be employed as an independent entity and completely eliminate said integrated circuit from the coupling method or application herein.



Fig. 5A to 5G. illustrates connection procedure of the audio cable comprising the integrated filter circuit(,) which is able to couple externally with a communication apparatus.

From the left side of a plug, a conductor wire **18** makes contact to one end of an inductor. A second conductor wire(,) makes a contact from the opposite end of said inductor **21** to the left side of a second plug. From the right side of said second plug **61**, a conductor wire **18** makes contact to one end of a capacitor. A second conductor(,) then makes contact to the opposite end of said capacitor. At the opposite end of the same conductor-wire, (**18**), a connection is then made to the right side of the first plug **61**.

reply to Notice of **Non- Compliant Amendment** of 11/8/04 and **Office action of Election/Restriction** of 8/

~~Fig. 8~~ Fig. 9 (Illustrate) Illustrates a ruff rough draft view of signals flows an audio signal flowchart demonstrating one band or one channel of audio signals communicating throughout through-out an entire acoustic enhancement communication system. The method of one band or one channel communication employs a unique one-way tunable crossover network or tunable filter circuit having only one output channel whereby producing only one channel of plural band enhanced audio signals for communicating the enhanced audio signals to a communication system. Thereby, the one-way tunable crossover network or tunable filter circuit herein driving at least one full-range speaker or at least one various-range speaker system, which depends an the arrangement of the application hereof. through-out a Signal Signals flows flow 53 from (a) microphone output the output-section 26 of a microphone 84 then throughout the acoustic enhancement communication system. Horizontally to the right of said microphone is a crossover-network one-way crossover network circuit or tunable filter circuit. From the microphone's the output section signals of said microphone, original audio signals are sent to the input port 87 or input section of a 3-way crossover-network the 1-way crossover network circuit or tunable filter circuit 103 which consist of a 3-way crossover network, and a serial transmission IC timer circuit in which said original audio signals are generated into three, then one multi- band or one-multi channel of enhanced audio signals. The one band or one channel of filtered enhanced audio signals that emit from said 1-way crossover network circuit or tunable filter circuit is then applies input-signals applied to the input of a an audio amplifier preamplifier 28. Horizontally to the right of said audio amplifier preamplifier is (a) an adjacent audio-transmitting transmitter section 86 that is enclosed with an adjacent receiver in a transceiver device. Said The one band or channel of enhanced amplified pre-amplified audio signals that output from the said audio preamplifier amplifier- (is) is entered-into then injected into said adjacent transmitting transmitter section. From the output section of the transmitter, said one band or one channel of enhanced audio signals is injected to the input of a Hybrid Network 104. Vertically to the left of the adjacent transmitter transmitting device 86 is (a) receiving audio-section the adjacent receiver section 85,) where in which the one channel of multi-bands or one band of enhanced audio signals from the output of said Hybrid Network are said input-signals are respectively join-to-the injected to the input of said audio-receiving the receiver section. Whereby, the received enhanced audio signals drives at least one full range speaker or a speaker system of the communication system hereof; providing that, said receiver section consist of an integrated retrieval circuit, at the end audio circuit of the receiver, that is able to retrieve the parent divided band of audio signals which was produced by the prior 3-way crossover network circuit that was arranged to produce and output the divided bands of audio signals to the IC timer circuit then to said receiver section that includes the integrated retrieval circuit thereby retrieving the received enhanced audio signals that drives at least one full range speaker or at least one various-range speaker system of the receiver hereof.

~~Vertically down~~ Downward from said ~~receiving section~~ adjacent receiver section 85 is a an acoustic ~~electronic~~ integrated medium 17, which is dispensable to said adjacent receiver section and is voluntarily adopted to transport conduct said one band or one channel of enhanced audio output signals from an external-dispensable output audio-port 87 which is employed to the receiver for coupling to an input audio port 63 of a motor vehicle's acoustic reproducing reproductive system. (.) Therein, where said the one band or one channel of enhanced audio signals are reproduced and then output to at least one full range speaker or a speaker system ~~magnetic hearing aid of the motor vehicle.~~

reply to Notice of **Non- Compliant Amendment** of 11/8/04 and **Office action of Election/Restriction** of 8/

Appn. Number: 10/050,193

Appn. Filed 01/16/2002

Reply to Non-Compliant Amendment of 11/8/04 and  
Office action of 8/8/05

**Amendments to the Specification:**

Please replace this section of the specification page [47 to page 67] with the following amended section of the specification:

**Operation Fig. 7 to 10,  
and Fig 3B**

[47- 67] (A) The operation procedure is provided for the at least one audio enhancing circuit such as the crossover network circuit which consist of the at least one input port or input section for injecting microphone output signals and control means for controlling the microphone signals or/and the at least two other audio enhancing circuits which forms the selective 1-way/3-way crossover/audio preamp/ audio equalizer enhancement communication system coupled with a communication apparatus(,) and an with the dispensable coupling means for voluntarily coupling the acoustic integrated medium(,) join with a from the communication system to the external reproducing reproductive acoustic system of the motor vehicle or the independent audio reproductive unit.

One would start operating the integrated acoustic enhancement communication apparatus by connecting the system for operation, which is illustrated in the pictorial view in Fig. 7A and Fig 10C. From this aspect, the microphone 84 is provided as the acoustic source of interest. (,) One must first hold (a) the microphone's coupling medium 17, ) gripping (a) the plug 61 by it's shell,(,) then insert the plug into (a) the microphone's external input 25 port 87, located on one side of (a) the integrated acoustic-enhancement communication apparatus, as illustrated in Fig. 7A and Fig 10C. After the microphone is in, (a) the filtering coupling medium with (a) the 1/8 inch plug at each end,(,) is may voluntarily be applied to one a dispensable audio port , at the bottom side of (a) said integrated acoustic enhancement communication apparatus 41 by gripping one end of (a) the 1/8 inch plug's shell, 72 as illustrated in Fig 7B and Fig. 7E, and then insert inserting the plug (at) the bottom side 68 of said communication apparatus into (a) female the dispensable output 26 port 87 of the (a) receiving receiver section located at the bottom side 68 of said communication apparatus. At the opposite end of the same coupling medium, shown in Fig. 7C and Fig. 7F, and apply a connection to the input port 25 of (an) the external reproducing audio reproductive system of the motor vehicle or other independent audio reproductive systems that is coherent to the application hereof system . When the connections are through (with)(,) , Press press the power button on said communication apparatus to apply current power signals throughout the entire circuit system.

When (a) audio signals input to said microphone, electronic audio function (is) executed the signals signal flow flows throughout through-out the integrated acoustic enhancement communication system(,) then couples externally to an the external independent reproducing reproductive system. (Figs.) Figure 3B, and Fig. 1 illustrate and Fig. 1A illustrates the flow of a plurality of divided band signal audio signals, and Fig. 9 and Fig. 9A illustrates a single band of audio signals flowing through-out throughout the said integrated acoustic enhancement communication system. From (a) microphone the output terminal or output section of the microphone or acoustic source 84(,) Input output signals from said microphone are applied to (a) the audio enhancing circuit such as the audio preamplifier circuit, the audio equalizer circuit, the three-way electronic crossover network circuit 47, the tunable one-way-crossover network circuit or tunable composite filter circuit or other audio enhancing circuits hereof. Signals With the employment of the 3-way crossover network circuit, audio signals are then divided into three different band bands of frequencies(,) illustrated in Fig. 3B. (A) high The high-range band of frequency(,) 74 which initialize emits from (a) the high band-pass pass filter circuit(,) (A) the midrange band of frequency, 75 which initialize emits from (a) the two element high-pass band-pass filter circuit(,) and the low-range (a) low band of frequency(,) 76 which(,) outputs from the (a) one element low band-pass filter circuit.

The integrated audio enhancing circuits are capable of being select for operation such as said audio preamplifier circuit, said audio equalizer circuit, the 1-way crossover network or tunable composite filter circuit or said equalizer circuit. In this manner, when the 1-way crossover network or tunable composite filter circuit is selected, it is capable of emphasizing at least one or three specified magnetic field thereby driving at least one dual cone speaker herein or a various range speaker system. An the other hand, the operation procedure may employ an audio enhancing circuit such as said 3-way crossover network circuit which thereby provides at least three bands of audio signals adopted for driving a variable range speaker system hereof. The at least one band or three signals bands of audio signals are then applied at to the input of an the secondary audio enhancing circuit amplifier(,) then input to (a) transmitting the transmitter section 86. From the output section of the transmitter, where said the audio signals makes another input connection to the input of a Hybrid Network. From said Hybrid network, signals are then injected to the input of the receiver receiving section(.) 85. The same at least one band or three separate bands of output signal signals from the said receiving receiver section(.) is are applied to (a) the female output port 87. When said port output port is coupled with (a) external audio cable, the signals are also voluntarily conveyed transported from the audio receiver section of the telephone integrated acoustic enhancement communication device audio-receiving-section to a dispensable coupling medium 17(,) which(,) then couples to (an) the external reproducing reproductive audio system and by injected injecting the signals into (a) the (CD) Compact disc input socket, auxiliary section or other audio input sections 25(,) where in which the audio signals are then reproduced in the (an) external audio system which may be engaged with the motor vehicle, the independently audio system or the independent incorporated audio system hereof.

~~At-leas~~ In that manner, the at least one or three individual band bands of audio frequency signals are sent to the (a) transmitting input section(,) of the transmitter in which where said the enhanced audio signals are transmitted to the adjacent receiving section of the communication system and the (a) remote communication device. Thereby, the user is capable of magnificently communicating said enhanced audio signals to the correspondent user at the opposite end in which said enhanced audio signals are capable of communicating high degree of acoustic quality audio signals thereby enabling superb perception in comparison to common communication systems hereof. Sound

Audio frequency signals (on) in (a) the telecommunication apparatus (is) are controlled tuned by (a) ~~switch~~ the control means(,) located on (a) keypad the external monitor section 71, illustrated in Fig 10A and Fig. 10C. One can start adjusting the frequency frequencies for operation by selecting a ~~band~~ network of frequency for operation adjustment. Using your hands, grip the knob **82** of (a) the rotary switch(,) Twist then twist said knob to the appropriate selected notch **81.** ~~the~~ The variable master volume level control push-button pushbutton switch 78 is used to vary increase (,) or-decrease the master acoustic level of the overall audio enhancing circuits of the acoustic enhancement communication device frequency selected-by in respect to the selections of said rotary switch. As illustrated in Fig. 10B(.) and Fig. 10C, (Press) press on the top end **79** of the switch(,) to increase the ~~volume of master audio level a band-selected frequency .~~



Press on the bottom end **80** of the switch(.) to decrease the volume of master audio level of the audio enhancing circuits, which thereby effect the level of the acoustic enhancement communication system herein a band selected frequency . Fig. 10C further illustrates the external monitor section **71** that includes display means **27** for displaying the current status and said external monitor section for monitoring said current status of the audio enhancing circuits that includes the first section **110** consisting of control elements for said 3-way crossover network circuit and said tunable one-way crossover network circuit or tunable composite filter circuit, which is located at the left side of the external monitor. The selection switch **119** is provided which is employed to execute the common that enables the selection of the 3-way crossover network circuit and the tunable one-way crossover network circuit or tunable acoustic composite filter circuit. When said selection switch is switched to the symbol 3-W position it indicates that the three way crossover network circuit is selected for operation, and when said selection switch is switched to the symbol 1-W position it indicates that the tunable one-way crossover network circuit is selected for operation. Adjust the 1-way/3-way crossover network's master volume unite **120** control element to vary the master volume of the 3-way/1-way crossover network or tunable filter circuit hereof. To vary the width of the band of frequency and to set the millisecond time interval, vary the band frequency band width/mSec. control circuit **111**. Vary the 3-way/1-way crossover network or tunable filter circuit's external variable gain control element **118** to vary the volume of a band of audio signals of said 3-way/1-way crossover network or tunable filter circuit. A) Vary the external variable high frequency range control element **115** to adjust the high range frequencies of said 3-way/1-way crossover network or tunable filter circuit. B) Vary the external variable midrange-frequency control element **116** to adjust the midrange frequencies of said 3-way/1-way crossover network or tunable filter circuit. C) Vary the external variable low-range frequency control element **117** to adjust the low-range frequencies of said 3-way/1-way crossover network or tunable filter circuit. Said external monitor section includes the second section **112** containing the control elements of other audio enhancing circuits such as the audio equalizer circuit and the audio preamplifier circuit in which contain viable treble control element **113** and variable bass control element **114**. On the equalizer's external monitor section, vary the preamp/ audio equalizer's variable unit volume control element **120** to adjust the volume of a section or unit of audio enhancing circuit such as the audio preamp/audio equalizer circuit. To vary or control the audio signals of the EQ/preamp circuit repeat step A), B) and C) in said second section of the EQ/PREAMP's external control unit.

**Summary Ramifications and Scope**

Accordingly, one can see that: (a) a communication system such as a verbal communication system or a duplex communication system such as a Telephone, Two-way radio, C.B radio, Amateur radio or other communication system hereof is comprising an audio enhancing circuit such as an audio preamplifier circuit, an audio equalizer circuit, a crossover network circuit or other audio enhancing circuit consisting of at least one input section for inputting original audio signals from at least one output section of an acoustic source such as a microphone is provided. In addition, said audio enhancing circuit is able to be integrated with other audio enhancing circuit and provides at least one or at least two communication channels that is capable of channeling the enhancement communication procedure according to the selected mode of acoustic enhancement communication hereof. ~~tunable crossover network~~ Furthermore, said audio enhancing circuit is capable of providing ~~having~~ at least one integrated band or one integrated channel of audio signals or at ~~leas~~ least three ~~band~~ bands of audio signals (,) ~~is~~ that are employed for banding and emphasizing audio signals entering said audio enhancing circuit for disposing the enhanced audio signals into at least one secondary audio enhancing circuit ~~an amplifying means , wherein an amplifier such as a crossover network circuit other audio enhancing circuit and a communication circuit. Therefore, said audio enhancing circuit is adopted for peaking enhances said audio signals and respectively injects inputting to said enhanced audio signals into the communication circuit such as a transmitter which is capable of being connected to one of the at least two communication channels of said audio enhancing circuit hereof. Said secondary audio enhancing circuit disposes said enhanced audio signals to a hybrid network. From said hybrid network, transmitting section(,) where said inputting enhanced audio signals intercept are then connected to the and connects to a second input of (a) an adjacent receiving receiver section which is capable of being connected to one of the at least two communication channels of said audio enhancing circuit in which thereby enhancing and emphasizing impaired audio signals entering the adjacent receiver which emits from the adjacent transmitter and from a remote communication device. The receiver section may further include includes a dispensable output port ,output section or a wireless acoustic system having said output section adopted for external voluntarily coupling with (a) an acoustic electronic coupling medium, said medium in which said coupling medium further having an unessential integrated filter circuit to oppose a plurality of frequency audio frequencies. Said The coupling medium is employed for coupling with a motor vehicle's reproducing reproductive acoustic system or an independent extraneous acoustic system that is not affiliated with a motor vehicle. Said dispensable output port may be omitted from the exclusive audio enhancing application in witch the audio enhancing application thus retain the audio enhancing circuit comprising the communication apparatus thereby sustaining the formation of an acoustic enhancement communication system hereof.~~

A reader may perceive that the technical acoustic configurations may individually use any preferred audio enhancing circuits for employing a mono/stereo, application or as the primary sequential circuit to constitute the enhancing audio section in a communication apparatus. Approximately at the same interval During the conveyance of audio signals to the independent audio system in the motor vehicle, new cycles of audio signals are initiated repetitiously on reception. (,) (the) The inputted signals to said transmitting said transmitter section(,) transmits said the plurality of audio signals to a responsive functioning means remote receiver(,) then to a remote user on (a) the receiving end. An A dispensable acoustic coupling medium combine combined with (a) the autonomous receiving section(,) could may voluntarily be used to join (a) the motor vehicle's reproductive acoustic system with (a) the communication apparatus. According to the technical aspects of this application, apparently, One can also see that(,) (a) crossover network an audio enhancing circuit or a section of said audio enhancing circuit such as a crossover network circuit, an audio equalizer circuit, an audio preamplifier circuit, an audio processing circuit, an audio filter circuit, an audio amplifier circuit or a miscellaneously multi-integrated circuit compact with more than one audio enhancing circuits or other multi or individually isolated or integrated audio enhancing circuits that is used to enhance the standard acoustic quality value of common communication systems to enhance the acoustic quality value from said standard acoustic quality value hereof, thereby, improving apparatus's audio efficiency, audio quality and performance. Furthermore, in reference to the conveyance of enhanced audio signals of the entire encircled application, for conveying high quality acoustic signals which may range out of the specified limits of a specific communication spectrum range. Therefore, an exclusive analog FDM or digital TDM multiplexing technique may be employ to suit this high quality application thereof.

One can also notice that(,) (a) ~~tunable-selector means(,) coordinating an equilibrium control technique is employed for equivalent control, or an independent control technique may controversially be employed for independent control hereof.~~ From this aspect, with (a) volume tuning control means(,) gives one the option to a user options which includes the ability of subjective control of audio signals in which the user has the choices of improving or/and varying select and boost an individual band of audio frequency signals herein (,) .

(It) The conjunction of a wireless communication apparatus with a motor vehicle's external reproductive audio system can easily be used enables subordinate monitoring while operating a motor vehicle. The combination of channeling multiple band-ranged audio signals is adopted for channeling a plurality of band audio signals to a conservative and efficient one-channel procedure in said communication system hereof. The sound separation ,acoustic emphasis, and the gratification of high grade, high class substantial materials such as resistors, capacitors, inductors, transistor, diodes, etc. brings forth good audio quality and endurance to the audio section of the communicating apparatus. Generally, the submission of mathematical formulas to the acoustic application herein, provide specific regulating emphasis to variable values of the application for improving the acoustic section of the communication system, and the mathematical formulas is utilized to determine quality factors or other characteristic values which may include simple acoustic integral circuit for an inadequate or inaccurate envelope procedure or sophisticated circuits with complex waveforms and techniques for mimicking the matrix of audio signals in a precise manner which may include sufficient or all overtones decay and rise time information of this acoustically enhancement communicative application. The voluntary combination of a communicating communication apparatus, and a dispensable audio port and an external coupling medium(,) and with an external audio system(,) create a remote way of communicating audio signals to a user. A user can transmit(,) and receiving receive communication without occupying his or herself.

Furthermore advantages of the ~~crossover network~~ variable/invariable duplex /simplex mode audio enhancing section comprising the communication system, which may be comprised with ~~comprising~~ means for voluntarily coupling externally include that(.):

- it ~~eliminate~~ eliminates the use of headphones or headsets that occupy a ~~users~~ user's hearing ~~cause hazards~~ and creates hazardous conditions;
- it ~~eliminate~~ is able to generates rich quality value of good quality, professional or advance quality audio signals that emulates from at least one verbal acoustic source or at least one general acoustic source and communicate the audio signals to the communication system in a manner in which the enhanced audio signals are technically apparent to a high degree distortion (,) and bring which thereby brings forth a clear audio accurate definition to transmission and reception with higher acoustic dimensions thereof;
- it ~~bring~~ brings forth (a) new way to communicate an advanced methods of communication due to the conjunction of an external system ultimate comprehensive audio enhancing techniques that is technologically consistent with a broad field of communication systems which may include broadcasting systems;
- it ~~execute~~ executes communication in (a) an un-occupying non-occupying manner and enable enables a touch-free way to communicate;
- it ~~bypass~~ implement convenient lineal transmission ~~radioactive waves that initialize from (a radio) communication apparatus ;~~
  - it can adjust audio signals frequencies to once satisfaction or once preference;
  - it ~~can enable~~ enables one to tune microphone ~~input~~ incoming signals and microphone ~~output~~ outgoing signals of a designated simplex or duplex communication system.
  - It implements the use of stereo/mono phonic application that may consist of other acoustical improvable elements or circuits that generates realistic acoustic technology to a communication apparatus such as a telephone, C.B radio, Two-way radio, Amateur radio, modem apparatus or other communication apparatus.
- It enables a user to ~~control~~ vary audio ~~communicating~~ communication signals internally or externally using an external audio system.

Although the description above ~~contain~~ contains many ~~specificity's~~ specificities, these specific factors should not be considered as a limit to the scope of this invention but as illustrations of preferred embodiments.

Digital or analog technique and apparatus may apply to this application hereof. A pushbutton switch ~~could~~ may (be) substitute ~~added~~ for making subjective selections ~~selecting~~ instead of a rotary switch. Audio pitches, tones or audio signal bands may be assigned to symbolic gestures or icons such rock, pop, jazz, classic et cetera, in substitute for other controllable features or characters of the communication system herein. (A) displaying ~~Display~~ mean ~~could~~ may be used to display the current signal status in an audio enhancing communicational application thereby displaying signal configurations or settings according to the provided acoustic status. The ~~filter circuit~~ audio enhancing circuits ~~can~~ may be miniaturized or magnified into variable dimensions for a ~~better~~ specified installation closure. (A) The plurality of tuning controlling means could may be subjected added to manufacturer modification the crossover network system by either contributing to or omitting specified control elements hereof. The crossover network ~~could~~ may be electronic ~~are~~ or non electronic. The receiving ~~port~~ audio-port ~~could~~ may be coupled using a nonintegrated medium or said receiving audio-port may be exclusively omitted from this application hereof and as a result maintaining the at least one exclusively designed audio enhancing circuit comprising the communication system.

Additional ~~element~~ reproductive elements ~~could~~ may be added to or omitted from the ~~electronic crossover network system~~ said at least one audio enhancing circuits herein or the at least one audio enhancing section such as ~~such as~~ resistors, capacitors, diodes, transistors, transformers, conductors and inductors(.) employed for exalting better performance and therefore producing refine acoustic communication. Elements ~~in~~ of the ~~crossover network~~ audio enhancing circuits ~~could~~ may be coupled in parallel or in series order depending on the specified characteristics of the relative application thereof.

Thus the scope of this invention should be determined on the appended claims and their legal equivalent, rather than by the given examples.